

## MEETING NOTICE

This month's meeting will be held at the:  
GRACE PRESBYTERIAN CHURCH  
2100 Tice Valley Blvd.,  
Walnut Creek  
November 21, 1980, 8:00 P.M.

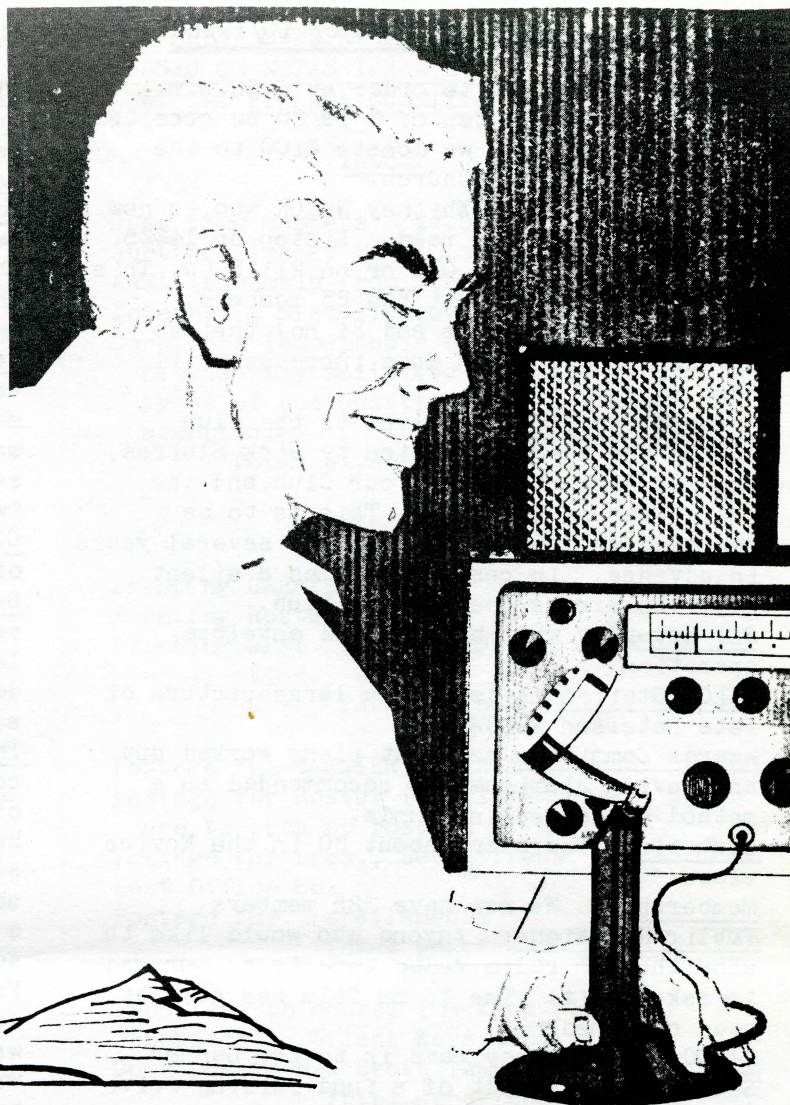
Our speaker for the evening will be none other than our own Stan Bringer, WA6IRZ. Topic: "The Lure of Pitcairn". The presentation will include color slides and movies. The topic itself sounds exciting. Thanks very much Stan!

### ??? AUCTION ???

Very sorry! but, due to the unavailability of a suitable location for the proper time, it appears necessary that we postpone the proposed auction, probably until March of 1981. At this time volunteers are being called for to help with a successful event next year. All suggestions are more than welcome!

Northern California Emergency Net:  
Sunday morning at 1000 on 3.920 MHz.

CIVIL DEFENSE  
Emergency Frequency: 146.985



**BALLOT  
ENCLOSED**

# the CARRIER.....

Published Monthly by the Mount Diablo Amateur Radio Club

— Printed by Doug Lortsher, W6KLM

MDARC FIELD DAY W6CX; 2M REPEATER WR6AHK; 220 REPEATER WR6ARG; MEMORIAL CALL SIGN W6LGW

VOLUME XXVIII

NOVEMBER 1980

No. 11

EDITOR: Clay Stiles, WD6GDG P.O. Box 23222, Pleasant Hill, Calif. 94523 Phone: 934-4553

President.....	WA6MWU, Chuck Welch	102 Rolling Green, Pleasant Hill,	94523 676-5262
Vice President.....	WA6IRZ, Stan Bringer	1920 Gilly Lane, Concord,	94518 689-0989
Secretary.....	KA6AHO, Judy Stewart	P.O. Box 23222, Pleasant Hill,	94523 798-9195
Treasurer.....	W6CU, Hal Mumford	1271 Walker Ave., Walnut Creek,	94596 934-4728
Emergency Coordinator..	W6LKE, Dwayne Eskridge	P.O. Box 5502, Walnut Creek,	94596 932-3971
Board Member.....	WA6GON, Doug Smith	1369 Tree Garden, Concord,	94518 inlisted
Board Member.....	K6XC, Ron Luttringer	440 Diablo Court, Martinez,	94553 229-3987

This Edition is not Copyrighted. It is OK to quote from us provided credit is given. Thank you.

Deadline for next issue: Articles and Classified Ads by November 28, 1980.

Next board meeting at: C.C. County O.E.S. building, 50 Glacier Dr., Martinez, Nov. 24, 8 P.M.



MINUTES OF MDARC MEETING OF 10/17/80

Meeting was called to order at 8:56 p.m.  
Motion passed minutes of 9/19/80 be accepted.  
Motion passed that we donate \$100 to the Grace Presbyterian Church.

A letter from Bill Whitney W6KUK who is now in Saudi Arabia was read. Listen on 14225 for HZ1AB 0200-0400 GMT or on 21115 CW. This is a club station that has 25 members.  
Motion passed (70 yes and 24 no) that we withhold the vote on dues increase until next month.

A check for \$120 was given to the Club during the dues discussion by Dick Squires, who had high praise for our Club and the activities of the Club. This is to be regarded as dues in advance for several years in advance. In case he becomes a silent key, the excess goes to the Club.  
SET Saturday will be a sealed envelope operation.

W6LGW Station is to have a large picture of Pete Peterson W6LGW.

Awards Committee has most plans worked out and saving aluminum was recommended as a method of increasing funds.

Education: There are about 70 in the Novice class.

Membership: We now have 725 members.

Public Relations: Anyone who would like to show the ham radio video tape is encouraged to ask for it. The 16 mm film has not yet been obtained.

\$4400 cancer money came in to the Cancer Society as a result of a fund-raising drive helped by our communications.

Christmas Party: Dee Koester KA6AOC is on the lookout for prizes and supplies.

TVI: A TV set was donated by Dick Squires for use by the TVI committee.

Nominations for 1981 Officers: Pres. Bill Leopold WB6NTU, Chuck Stewart KB6UC; V.P. Paul Taylor WA6TXM, Judy Stewart KA6AHO; Sec. Dee Koester KA6AOC, Joe Gregory WA6DQN; Treas. Roy Estep WA6FHF, Dick Brown WA6YXY; Emergency Coordinator: Dave Greenhill WA6OFI, Bob Bruder KA6Q; Board Member: Ron Luttringer K6XC, Henry Beisheim KA6B, and also nominated was Steve Overacker WA6HAM.  
Motion passed nominations be closed.

A rotating drum has been donated by Dick Squires for use by the prize committee.  
Auction details hopefully will be in the next CARRIER.

Adjournment was at 10:28 p.m.

- W6CU, Sec. pro tempore

Minutes of MDARC Board Meeting of 10/20/80

QTH: O. E. S. 50 Glacier Dr., Martinez

Present: Gerry Nanbu, Doug Lortsher, Parky Parkinson, Warren Peterson, Paul Taylor, Joe Deas, Steve Overacker, Dee Koester, Dave Greenhill, Bill and Gennie Leopold, Harry and Norma Davis, plus Chuck Welch (Pres.), Hal Mumford (Treas.), and Ron Luttringer (Board Member) but there was not a quorum.

Correction to last month's Board Minutes: Under "CARRIER printing" insert "except for money from Computerland" in front of the word "advertising". Under "Social Chairman" substitute the word "may" for the word "will".

Clay Stiles WD6GDG has accepted editorship of the CARRIER.

Budget and Dues Increase: W6CU has a suggested 1981 budget based on our present level of activity. However, other budgets decreasing or increasing our level of activity should be considered.

The following petition was presented for consideration: "We, the following members of the Mt. Diablo Amateur Radio Club, do hereby petition our Board of Directors to set the 1981 dues at \$10.00 per year payable in advance. Family members for additional members shall be \$5.00 per person, and \$2.50 per additional family member. Family members shall not receive the monthly CARRIER. Respectively submitted" This was signed by underlined members above. It was accepted by the Board for consideration by the membership at large. (Stan Bringer was phoned to complete the quorum.)

A budget committee was appointed to meet as soon as possible, consisting of K6IMV, K6VLH, W6CU, and prospective 1981 officers of the Club (but all could not be contacted. See list of those attending, in the budget committee report).

Bill Leopold volunteered to store the club generator if no one else wants it. Wally's Rental has expressed the desire not to store the club generator on their lot.

K6POU sanction was restored Sept. 29, 1980.

New bylaws still need to be taken care of.

Auction: Hopefully Nov. 22. Place? Dee has volunteered a P.A. system for it.

Club History: W6EEN has volunteered duplication facilities for the club history.

Membership Certificates are all typed up.

November Program: "Lure of Pitcairn".

Door Prize Money: \$124.52 on hand.

Christmas Party: \$250 is needed.

- W6CU Sec. pro tem



## REPORT OF SPECIAL FINANCE MEETING

A finance committee meeting was held Monday October 27, at the home of Hal and Mildred Mumford.

The meeting was chaired by Hal W6CU and those in attendance were Roy Estep WA6FHF, Bill Leppard WB6NMU, Paul Taylor WA6TXM, Steve Overacker WA6HAM, Chuck Stewart KB6UC, Joe Deas K6VLH, Joe Gregory WA6DQN, Dick Brown WA6YXY, Parky Parkinson K6IMV, and Dee Koester KA6AOC.

A budget was worked out to meet with a petition presented by Hal W6CU and signed by seven members in attendance.

Coffee and dessert was prepared and served by Mildred Mumford with our thanks for her kind Hospitality.

- Dee Koester KA6AOC  
Acting Secretary

### PETITION

We submit herewith this petition for presentation to the Club with the request that section 1.1 Article V of the bylaws be changed to the following:

1.1 The annual dues shall be \$7.50 per calendar year. Dues for new members who join after July 1 will be \$4.00.

Signed: Bill Leppard WB6NMU, Joe Gregory WA6DQN, W. Parkinson K6IMV, R. S. Brown WA6YXY, Roy Estep WA6FHF, Dolores Koester KA6AOC, Charles R. Stewart KB6UC.

(The above petition was OKed by the Board via telephone.)

### HR REPORT...

TURKEY IS OFF THE AIR again and TA1MB told his QSL manager, K2UO all mail is being checked by the authorities. DO NOT mail anything to any Turkish Amateur at this time, as it could cause him very severe problems.

Operating Without a License can be expensive. A Garden Grove, Cal. man's continued operation outside the CB frequencies after his CB license was revoked brought him a \$1500.00 fine. Do you suppose the FCC would treat a Ham that way?

ORIGINAL APOTHEGM  
(by someone)

If I had my brains and your money I wouldn't have to worry so about my brains.

WD6GDC

## BRIEF OUTLINE OF PROPOSED BUDGET BASED ON NOTES TAKEN BY W6CU and WA6YXY AT THE FINANCE COMMITTEE MEETING

### INCOME

Dues (700 members @ \$7.50)	\$ 2250
Auctions (money in minus out)	750
ARRL (renewals from 70 members)	100
Interest & miscellaneous	50
Donations (acceptable but money not necessarily solicited for ads. Other types of compensation from ads also acceptable)	000
Total expected income	\$ 2750

### EXPENSES

Printing CARRIER	600
Printing Roster update	75
Printing Misc. (Xmas, F.D., membership applications, etc.)	25
Total printing	\$ 700
Postage for CARRIER (bulk mailing)	780
Postage for Roster (local members are to pick up rosters at meetings)	25
Postage for Pres., Sec., Treas.	75
Post Office box	20
Postage for Miscellaneous	20
Total postage	\$ 520
Donations to church (meeting place)	225
Donations to Silent Keys charities	75
Donation to Red Cross (W6LGW)	25
Total donations	\$ 725
Christmas Party (any additional cost to come from attendees)	\$ 250
Field Day (any extra to come from participants)	\$ 100
Insurance	\$ 127
Awards & plaques	\$ 75
Miscellaneous (speaker dinners, CCRC, labels, films, PR, etc.)	\$ 100
Contingencies (10%)	\$ 280
Total expenses	\$ 2417
Net gain (almost same as auction)	\$ 777

In-and-out moneys such as books for classes, designated donations, Wash. Birthday Bkfst, etc. should balance out to zero and are not shown in the above budget.



#### COMMENTS FROM A BOARD MEMBER: INCOME

The time has come for the MDARC to begin looking at ways to bring in income suitable enough to support present yearly activities and provide a good financial cushion for the future.

Relying solely on members dues can only leave us with a static, unchanging club. To be as dynamic as we've been over the past two years we need money. This has certainly been proven by the depletion of the treasury this year. The problem isn't poor leadership like the muckrakers would have us believe, and it's not entirely due to bad financial planning as indicated by the doomsdayers. Our spending is a clear indication of GROWING PAINS.

There is a need for the budget committee that our President has wisely created to look at the numerous projects we involve ourselves in, to find out exactly how much we will be spending from year to year. The committee's responsibility should not be to put a firm lid on spending but to allocate resources wisely where we think we'll need them in the future.

To have an adequate budget to plan we need an adequate treasury, something I don't think we've had in the past. We should shoot for a good savings account to use as cushion against inflation and emergencies and a suitable amount in checking to cover yearly projects and cover yearly growth. WE MUST PLAN FOR GROWTH.

I would like to suggest some of the following money making ideas:

- 1.. NEW & IMPROVED yearly auction, held and planned with the idea that it be an honest money maker! (Perhaps combine it with a flea market during a weekend day to increase attendance)
- 2.. Recycling: see other article this issue.
- 3.. Car washes: set up at a gas station and wash the public's car. Their contribution helps us. We're not selling communications but selling a car wash.
- 4.. Pancake Feed or Spaghetti feed: held in a large auditorium and charge per plate. At such a public get together we can show the film on amateur radio and provide a free demonstration.

5. We could sell coupon books, raffle tickets.

6. Encourage members to renew ARRL membership through the club treasurer.

7. Charge for refreshments at the club meetings and provide a big layout of goodies.

8.. Obtain more advertising for the Carrier each month. Use advertising to make the Carrier self-sustaining.

9.. Become a non-profit corporation. Get the proper IRS designations so we can accept tax deductible donations! We've been sitting on this one for years.

10.. Use 2nd Class mailing for the Carrier. This proposal has also been sat on by boards for some time. No action has been taken except to table the discussion.

There are lots of ways to make money. A few of the above listed are not favored by the present club administration. They are supposedly "not appropriate." (Neither is starving!) I have worked with non-profit organizations in the past that have done one or all of these things every year with great success. I think it's time we looked at them seriously.

You can only squeeze so much blood out of a turnip. The members are to be squeezed for even more next year and it promises to be only enough to almost meet what we spent last year. If you liked last year, talk to your board about money making projects.

Tell the board your turnip is dry, but tell them to find another!

#### RECYCLE ALUMINUM

At the time of publication, club recycling efforts will have added almost \$30 to the awards committee budget. By Dec 16 I expect the Awards Committee will have more than matched the \$50 allocated by the club.

It is entirely feasible to add as much as \$50/month to the club treasury on a yearly basis recycling aluminum. I'm hoping this will be a good money maker to help support the club treasury.

Save your aluminum cans, foil, scrap metals, old antenna parts for recycling. ANYTHING ALUMINUM. Bring your contribution to the regular club meeting and I'll haul it off.

It would be helpful if you could crush aluminum cans and other large pieces of metal first. I have limited room in my station wagon..... Doug WA6GON



News from down south  
THE SOUTHERN CHAPTER  
By: Jerry, WA6CUP

Well folks I'm still without a Southern Chapter member to feature this month. Apparently several of those I was hoping to feature have not paid their dues. So, until the MDARC coffers are enriched by their offerings, ethics dictate that I QRX on establishing their fame through this column. Per SMØHEP, wrote recently and promised that a picture will be sent soon. So, perhaps next month we'll get a look at our most northern Southern Chapter member.

Just because there's no featured member, don't run off! There's plenty of news to report. First and foremost, we were recently graced by the presence of K6IMV and his wife Lee. We had a chance to see Parky several times and Patty and the kids and I joined Parky, Lee, Orv (W6BSL) and Elaine for dinner at a local restaurant appropriately called, "HAMS".

Dave, KB6WM, is currently vacationing back east and Bob, W6GZC, has been able to talk to him on 20 meters several times. Looks like Dave's h.f. mobile installation is really working well.

Gentleman Joe, WA6PVA, has returned home to Oregon for the winter. His major project will be to get his, "big", tower and 20 meter antenna back up. Next in line will be to add to his DX accomplishments and to get in some study time for his extra class license. Hopefully Joe's antenna farm will be ready for a semi-serious effort in the CQ DX WW contest in late October. Joe celebrated his long (long, long, long) discussed 29th birthday down South before he headed home. Really showed some self-control: only one piece of carrot cake with K6IMV, one piece of pecan pie with W6BSL, one chocolate cake with WA6CUP's clan and one short, "cold one", with Bobby Gritch. According to Joe that's only 110 calories altogether. Amazing what a little influence with the Almighty will do.

Orv, W6BSL, along with yours truly is planning to join WA6PVA/7 in a multi-op effort from beautiful downtown Baker in the CQ DX contest. Orv is also actively pursuing his French class and has still found time to help a couple of us, "down south", members put together some much needed microphone switches.

W6TIO, Captain Bob, is busy playing with his second computer--the new pocket computer from Radio Shack. The way Bob has it figured he can program it to exceed the capabilities of the inertial navigation systems housed in the L-1011's which he pilots. You'll read about Bob and his new computer next month in all the national magazines. He'll be the guy who lands a commercial airliner at the Ashtabula, Ohio Municipal Airport. First words out of his mouth will be, "my computer had me headed for Boston".

With the help of WA6PVA, K6IMV, W6BSL and W6TIO your southern scribe now has a new TH6DXX tri-bander operational at about 60 feet. If I survive my neighbors' lawsuits I may even eventually get to try it on the air. Thanks to all for the help and advice. It paid off with a super low SWR all across the 10, 15 and 20 meter phone bands. Those of us down south who periodically visit the MDARC area were pleased to hear recently that the repeater problem is apparently resolved. I'm sure the solution resulted from the hard work of a number of people. Thanks for the efforts.

Well folks, that's about it for this month. As I said, we'll hopefully feature Sweden's most Americanized amateur next month. Untill then....

73, Jerry  
WA6CUP

REMINDER FOR CHRISTMAS PARTY!

Those parents bringing children to the party please bring an appropriate gift for each child and mark plainly with their first and last names. This will assure every youngster of receiving a present from Santa.



THE BATTLE OF THE BANDS  
or the story of  
THE CONCORD BAND REVIEW

The morning of October 4 dawned bright and clear, with not a hint of a cloud in the sky. It was very warm and the first band was due to, "step off" at 9:00 A.M. And it was getting warmer.

The story of amateur radio involvement in the Concord Band Review goes back several years ago when John Aldridge, K6DEJ lived near the corner of Sixth and Concord Aves. He observed Mr. Clayton Weller, longtime the chairperson of the event, scurrying up and down the parade route, trying to keep the bands in order. John knew this was a communications job for ham radio and offered the services.

So for the past several years, amateur radio has been an integral part of the Concord Band Review. This year there were no less than thirty intermediate and high school bands entered. The first in a season of marching band competitions, the Concord Band Review has a reputation of being one of the best in Northern Calif.

The competition begins as the bands alight from their buses and it is neat to see them display their spirit. As the Ukiah band stepped off their buses, an airplane could be seen circling overhead towing a sign, "SMOK'EM UKIAH!".

At 9:00 A.M. the first band left the inspection area at Wren School, marching up the street, turning right onto Farm Bureau onto Concord, toward the reviewing stand established at Third and Concord.

Stan Bringer, WA6IRZ, along with Danny his son, were at the staging and inspection area. Dick Brown, WA6YXY, was at the intersection of Wren and Farm Bureau. Dave Greenhill, WA6OFI, was at the, "Start Line", at Sixth and Concord. Doug Lortsher, W6KLM, was at the reviewing stand. John Aldridge was assigned to stay at Mr. Weller's side and Bill Leopold was assigned motorcycle (Harley) mobile.

Amateur radio played a most important role of reporting times in and out of the inspection and start areas. When the inspection area people were a little slow, the order was relayed from the chairperson to ask the inspection team to speed up.

They got up to two minutes to being on

scheduled time when the Clovis High School Band, being serviced by attendants spraying cooling water down their throats and removing plastic wraps from their shoes, was five minutes late getting into the inspection area. They were promptly, "dinged",  $\frac{1}{2}$  point. The director was furious and proclaimed his band was being treated unfairly and therefore would not participate in the afternoon competition at DVC. Amateur Radio passed that message to the chairperson who took action to assure that Clovis would indeed participate in the afternoon event. (And what an event that was!).

The last band finally cleared the inspection area at about 11:30 A.M. The temperature was already into the high eighties and the drum major had to stop his band at three different places on the route under large trees to cool off his band. Band attendants swarmed like worker bees around the members, spraying cooling water down their dry throats. They finally passed the reviewing stand just after noon.

Out of the marchers from thirty bands, only two or three, "fell out", during the parade and they were taken care of by their band attendants. Amateur radio and the Mt. Diablo Amateur Radio Club received gracious thanks from those at the reviewing stand and it was acknowledged that the MDARC was a great help in keeping the parade moving on time.

The afternoon activities at Diablo Valley College called for a station in the press box, a station on the field and a station at the entry gate by the field. Bands were signaled by radio as to when to enter the field along with changes in program and, "when is Clovis going to be ready?". A radio was dispatched to the parking lot to remind the director to hurry up.

It was 1:30 P.M. The temperature was 100+ on field. (I later placed my palm on the Astro-turf and it felt hot! I decided the Astro-turf, which is put down on top of a layer of asphalt, is not the place to be on a hot afternoon in Pleasant Hill).

Stan was in the press box at 110 degrees. John was on the field with Mr. Weller at 115 degrees and Bill was at the fate with his Harley at 112.5 degrees.

As we arrived at about 1:15, the campus security accurately surveyed the situation and decided they needed help. They saw Bill with his Harley and amateur radios and he was



given a college hand-held for communications with the two security officers.

Five bands were to perform on the field. One director wisely withdrew his band. The best performance of the other four bands was by the 120+ marching band from Clovis. They put on an extravaganza field show that combined both traditional and modern marching music.

As the Clovis band was winding up their performance, the heat started to take its toll. Two members of the Clovis band, "fell out", suffering from heat exhaustion.

Amateur radio, through John and Bill notified campus security who called the Consolidated Fire District who called Michaels Ambulance.

The awards ceremony called for representatives of all the bands to stand on the hot Astroturf, waiting to receive their awards for their bands. The temperature had to be 120 degrees on the, "turf", by this time.

More people started falling out. Another fire unit from Consolidated responded. Two police units from Pleasant Hill arrived with air conditioned cars. Both fire and police units left hand-held radios at the gate with Bill, to coordinate communications. (It was reported that at one time, Bill had radios on two meters, 220 MHz, college radio, Consolidated Fire and Pleasant Hill Police).

Finally, after about twenty people on the field and in the stands had, "fallen out", the Fire Department and Police Departments closed down the event, about two thirds through the awards. The officer making the announcement closing the event also announced, anyone having heat problems to come down to the bottom of the stands and they would be taken care of.

The dynamics of crown hysteria brought another fifteen persons down and at last count, there were three units from Consolidated Fire District, three units from Pleasant Hill Police and three units from Michael's Ambulance, along with Michael Mickelberry himself, with his, "MEDCOM", medical communications van.

The Concord Bank Review traditionally a, "fun", event with majorettes displaying their pulchritude and majors demonstrating their leadership skills. These are the, "Cream of the Crop" of today's youth and it is neat to see them in action and I hope it is not so darned hot next year.

Stan Bringer, WA6IRZ

## Ham Radio Outlet

999 Howard Avenue  
Burlingame, CA 94010

(415) 342-5757

Hours: 10 AM to 5:30 PM Monday-Saturday

HAM RADIO OUTLET  
999 HOWARD AVENUE  
Burlingame, CA 94010

2811 Telegraph Avenue  
Oakland, CA 94609  
(415) 451-5757

IN STOCK!

KENWOOD TS-830S  
KENWOOD TS-130S

ARC DEVIATION METER  
ON SALE \$99.95

ARC #324, TR-2400 AUTO CHARGER,  
AUDIO AMP, R.F. AMP  
30 WATTS OUT.  
PROVISION FOR EXTERNAL MIC.

**SALE**

TR-2400...\$379.95  
TR-7800...\$359.95  
TR-9000...\$449.95

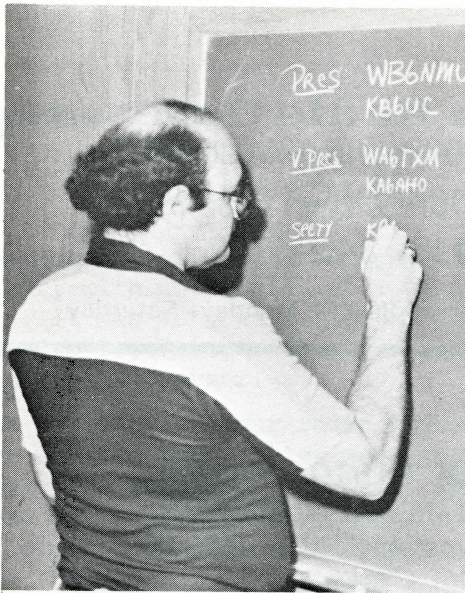
OUR ONLY BUSINESS IS HAM RADIO!

STORE HOURS: 10 AM TO 5:30 PM  
Monday thru Saturday

HAM RADIO OUTLET STORES  
HAVE THE LARGEST  
AMATEUR RADIO INVENTORY  
IN NORTHERN CALIFORNIA



...PHOTOS...

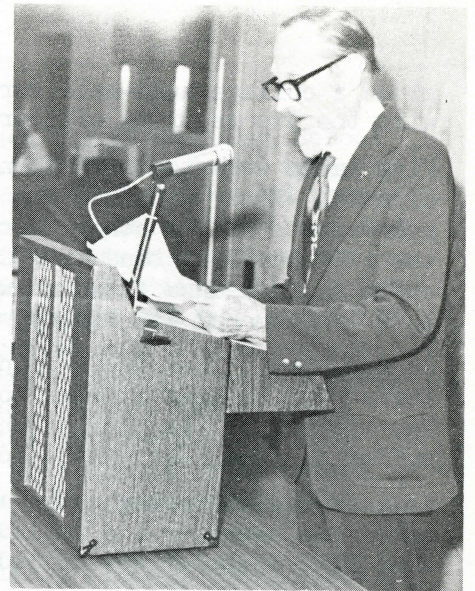


Right:

Royal Mumford, W3CU, guest speaker at the MDARC October 17, 1980 meeting. See article on next page!

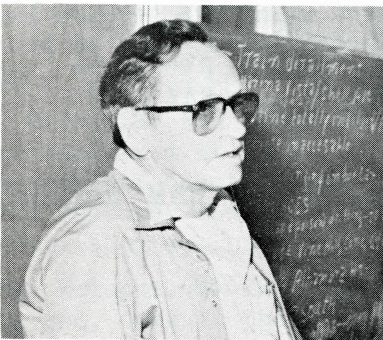
Left:

Ron Luttringer, K6XC, selecting candidates for 1981 club officers.

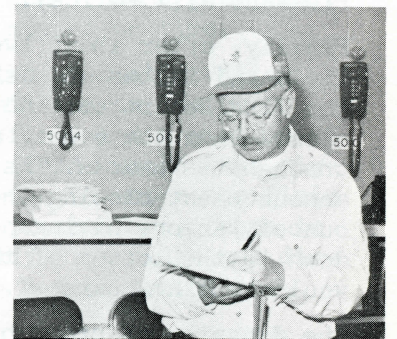


BELOW

Photos taken by Doug Smith, WA6GON, at the critique following the recent S.E.T.

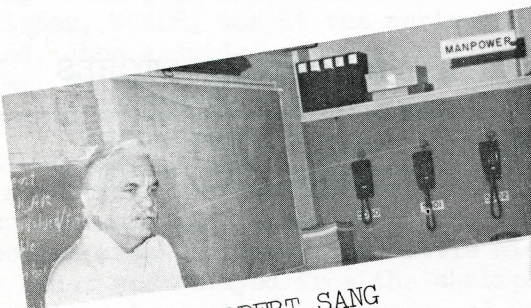


RON HULL from Red Cross Western Division conversing with EMILY DECKER, Chairman Diablo Chapter and discussing the October 18th Simulated Emergency Test and confirming its success.



Battalion Chief  
CHARLES MARSHALL, WA6PNO

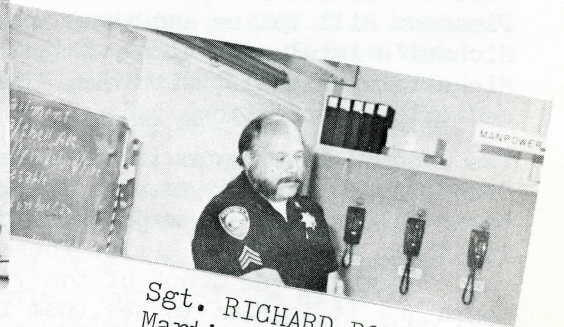
DAVE TYLER, Acting E.C.  
for West County



Capt. ROBERT SANG  
Martinez Police Dept.



Guess who?



Sgt. RICHARD DOWLING  
Martinez Police Dept.





These members of the M.D.A.R.C. who kept the 1980 Walnut Festival running smoothly, are receiving thanks from Walnut Creek vice-Mayor Bruce Martin. The activities began at 7:00 AM with a Ten Kilometer foot race. At 11:00 AM the Group set up portable units at various points along the Main Street Parade route. Shown here are Dave Greenhill, WA6OFI, Dick Brown WA6YXY, Burt Muller KA6AEV, Vice-Mayor Bruce Martin, Bill Leppard WB6NMU and Scott Miles WB6PQM. Behind Bill is his motorcycle, which was used as a mobile unit and to shuttle the Parade Officials back and forth

along the Parade route. Other M.D.A.R.C. members participating were Frank Calton N6GQ, Gerry Nanbu KA6IEW, Joe Gregory WA6DQN, Norma Welch WD6CVH, Chuck Welch WA6MWU, Ryan Hodgson KA6IVG, Clay Stiles WD6GDG, Larry Kaye W6CPO, Vern Hajek K6UGS, Bob Bruder KA6Q and the two Doug Lortshers, KA6DPW and W6KLM.

---

...DISTINGUISHED GUEST...

Royal Mumford, W3CU (left) is the oldest of the three Mumford brothers (W2CU, W3CU, W6CU). Back in 1916 he was the first one of the three to discover the excitement of amateur radio but it was not long before Bill, W2CU and Hal, W6CU became interested too.

About a week before the United States entered World War One Royal volunteered to be a radio operator in the navy and made a trip to South America and France. After the war was over the Mumford brothers first operated 7CU in Vancouver, Washington and then 7ZJ with special privileges.

When World War Two started, Royal quit his high school teaching job and taught radar to navy men and later worked for Westinghouse for awhile before his retirement.



Royal had told Harold of his proposed trip to California and with his intended arrival being within the date of club night Hal persuaded his brother to give a talk to the club members about old time radio and their combined experiences with rotary spark gap transmission. More than one ham in the audience was seen rolling in the aisles with, "belly-aching" laughter. Please come again Royal!



October 23, 1980

To: Editor, "The Carrier"

From: MDRA

In the month of December a meeting will be held with the three groups who will decide the fate of repeater operations presently being conducted in the Diablo Valley. The participants will be: the Mt. Diablo Amateur Radio Club (MDARC), Mt. Diablo Repeater Association (MDRA), and the Northern Amateur Relay Council (NARC) which will act as an observer.

The agreement or lack of agreement in the dispute between the MDARC and the MDRA will directly affect the actions taken by NARC concerning the operations of the sanctioned repeaters, WR6AHK (sanction #16) and K6POU/R (sanction #128) on 147.66/.06.

Now, let's explore the possible ramifications of a non-agreement. It is conceivable in the worst case that, if no satisfactory agreement were reached between the two groups, that they may both lose their sanctions and thus their repeater sites. An agreement reached through negotiations, on the other hand, has many avenues open in which common ground between the two groups can be found.

The MDRA has stated since the beginning of the conflict that they are willing to negotiate a working written agreement with the MDARC. The MDRA has stated numerous times that they are not "out to destroy" MDARC. The MDRA wants to work in conjunction with MDARC in providing the Diablo Valley amateurs with a tool for public service as well as an effective communications system.

Sincerely,

MDRA

---

The above letter was delivered to the residence of the Editor on the same date as the letter by Steven Overacker, WA6HAM and Wendell Peterson, K6POU, with the request that it be included in the Carrier. The meeting, as mentioned in the letter will be held on December 4, 1980.

ARRL ARRL ARRL ARRL ARRL ARRL ARRL

JOIN ARRL OR RENEW ARRL DUES THE EASY WAY.  
MAKE \$18.00 CHECK TO THE MT. DIABLO AMATEUR  
RADIO CLUB. SEND DIRECTLY TO THE TREASURER'S  
ADDRESS. WITHIN 24 HOURS \$16.50 WILL BE  
ON THE WAY TO ARRL HEADQUARTERS AND THE  
CLUB GETS \$1.50. HELPS BALANCE OUR BUDGET.



## *The President's Corner....*

The Holiday Season is upon us and I hope everyone is ready to place their orders with Santa at the Christmas party. Dee Koester, KA6AOC is SCE (Santa's Chief Elf) this year, so if you would like to help out with the party, please give her a call.

The Annual Election is this Friday so mail your ballots TODAY if you can't be at the meeting. That other election is over, so now you can vote for a real slate of candidates-The 1981 MDARC Board of Directors.

Elsewhere in this Carrier is a report of the Budget Committee. Please study it and be ready to vote on a proposed dues increase measure at the General Meeting on November 21st. Do we want MDARC on a tight budget, or do we want a club that has the financial ability to expand its activities? It's for you to decide!

73 Chuck, WA6MWU

### \*\*\*\*THE FINAL EXAM\*\*\*\*

Are you a tester or DX'er? Do you need those additional frequencies the Advanced or Extra Class licensee has?

Bash Educational Services now has THE FINAL EXAM updated for the Advanced & Extra Class manuals to cover the material on the new FCC tests. These manuals are available at The Base Station in Concord, Ham Radio Outlet in Oakland or Burlingame, Hobby-Tronics & Quement Electronics in San Jose. If you think the cost of the manual is high (\$9.95), what do you think it costs you to take the test & fail it? Get the best test guide in the country & upgrade NOW!

Mail orders, please add \$1.25 for handling.

Dick Bash -- KL7IHP

BASH EDUCATIONAL SERVICES  
P.O. Box 2115  
San Leandro, Calif. 94577  
(415) 352-5420

# ComputerLand®

## ComputerLand®

## ComputerLand®

### ComputerLand®

### ComputerLand®

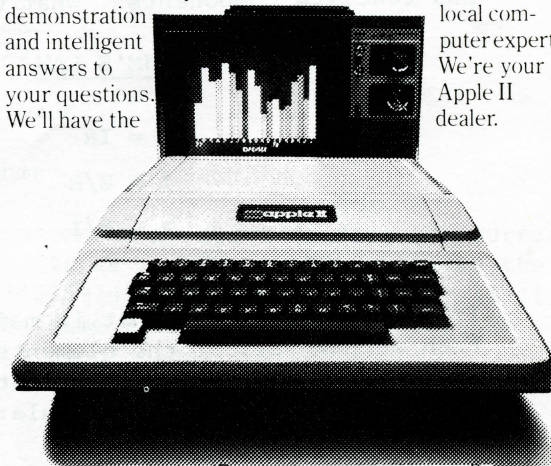
## How to buy a personal computer.

There's only one smart place to buy a personal computer: from your local computer expert.

Look to your Apple® II dealer for efficient product demonstration and intelligent answers to your questions. We'll have the

software and peripherals you want in stock. And we'll be on hand when you need advice and service after the sale.

You can rely on your local computer expert. We're your Apple II dealer.



## ComputerLand®

OF WALNUT CREEK  
1815 Ygnacio Valley Road  
Walnut Creek, CA 94598  
(415) 935-6502

See Russ-KA6BPN



## CLASSROOM CORNER....

This time we will consider an area that seems to bother a lot of people: IMPEDANCE. Impedance is one of the areas the F.C.C. expects you to understand and you'll find questions on it on the General/Technician, Advanced, and Extra Class written exams.

In radio circuits, there are things that oppose the flow of current other than simple, pure resistance. In circuits containing coils, we find that there is a phenomena called "inductive reactance" that resists the flow of alternating current (a.c.) and the presence of capacitors causes "capacitive reactance" to oppose the flow of a.c. So, now we have three (3) things, in an a.c. circuit, that acts to reduce the current flow: pure resistance, inductive reactance, and capacitive reactance.

In a radio circuit, the effects of the resistances and reactances combine in a special way to form a special kind of resistance, so to speak, that is only found in a.c. circuits. This is termed "impedance". Will we find impedance in a d.c. circuit? No! Impedance is found only in a.c. circuits and require the presence of a reactance (capacitive or inductive or both) in addition to the resistance.

How do we measure this thing called "impedance"? Well, regrettably, we do not use an impedance meter! Impedance is a mathematically derived value and can be found by using the Pythagorean theorem. On page 103 of ELECTRONIC COMMUNICATION (4th edition) by Robert L. Shrader (1980 - Mc Graw Hill Book Company), Bob (W6BNB) shows that impedance is designated by the letter Z and is found by doing this:

Impedance is equal to the square root of the sum of the squares of the resistance and reactances in the circuit.

$$Z = \sqrt{R^2 + X^2}$$

The reactance is designated by the letter X in the above formula.

If we replace the value of R in our Ohm's Law formula that we're so used to dealing with ( $E = IR$ ) with Z for impedance, we are then able to derive the various equations for finding the voltage, current, or impedance of circuits that contain both resistive and reactive components. What we end up with looks like this:

### OHM'S LAW

$$E = IR$$

$$I = E/R$$

$$R = E/I$$

### MODIFICATION FOR IMPEDANCE

$$E = IZ$$

$$I = E/Z$$

$$Z = E/I$$

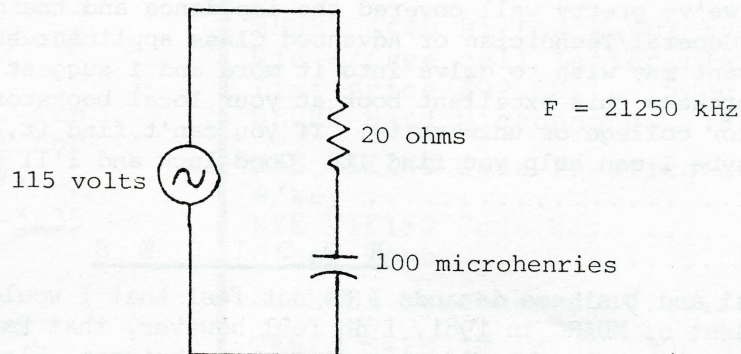
If we take a circuit that is made up of an a.c. signal, a resistor, and a capacitor then we have all of the elements necessary to determine the impedance. We first examine the circuit and see that we need the reactance of the capacitor. This is determined by using the formula:

$$\text{Capacitive reactance } (X_C) = \frac{1,000,000}{2\pi fC}$$

where  $\pi$  = 3.14  
f = frequency in megahertz  
L = Capacitance in microfarads  
 $X_C$  = Capacitive reactance in ohms



Once you have found the reactance value, you can then use it with the impedance formula mentioned earlier. Simply multiply it by itself to obtain the square of the reactance and then add that number to the square of the resistance (in ohms) in the circuit (in this case, it's the value of the resistor). Here's the circuit and let's see what we get from it.



If you will use the formula for the reactance then you get a capacitive reactance of 74.9344323716 ohms, which we'll round off to 75 ohms.

Let's now implement the Pythagorean theorem to get the impedance. First we substitute in the values for the resistance and reactance, square each of them, add them together, and, finally, take the square root of the sum to obtain the impedance in ohms. Here's what the math looks like:

$$\begin{aligned} Z &= \sqrt{R^2 + X^2} \\ Z &= \sqrt{20^2 + 75^2} \\ Z &= \sqrt{400 + 5625} \\ Z &= \sqrt{6025} \\ Z &= 77.620873482 \\ Z &= 78 \text{ ohms} \end{aligned}$$

We can now find the voltage drop across each component by first finding the current using our modification of Ohm's Law ( $I = E/Z$ ). If we divide our 115 volts by the 78 ohms of impedance, we get a current of 1.47435897435 amps, which we'll call 1½ amps. In a series circuit, this current is the same throughout the circuit, so we'll simply use Ohm's Law to find the voltage drop across the resistor:

$$\begin{aligned} E &= IR \\ E &= 1.5 \text{ times } 20 \\ E &= 30 \text{ volts} \end{aligned}$$

This means that there must be the difference between this value and the total voltage (115) across the capacitor. So, the voltage across the capacitor is 115 minus the 30 volts or 85 volts!



By the way, I should point out that the reactance value in the impedance formula (X) is the net reactance. It is found by assigning a positive value to any inductive reactance (from coils) and a negative value to any capacitive reactance. Thus, a circuit that has a 25 ohm coil and a 15 ohm capacitor would have a net reactance of 10 ohms. When the capacitive is greater than the inductive, you'll get a negative value for X. However, this'll disappear when you square it.

Well, we've pretty well covered the impedance and the depth the average applicant for a General/Technician or Advanced Class applicant should know it. The Extra Class applicant may wish to delve into it more and I suggest he/she read Shrader's. You can purchase this excellent book at your local bookstore or at the bookstore of a junior college or university. If you can't find it, give me a call at 415-352-5420 and maybe I can help you find it. Good luck and I'll see you next month!

#### N O T I C E S

Due to personal and business demands I do not feel that I would be able to fulfill the duties of vice-president of MDARC in 1981. I do feel however, that Paul Taylor, WA6TXM would do an excellent job as your vice-president and program chairman. Please do as I plan to do and vote for WA6TXM.

73, Judy Stewart, KA6AHO

I wish to withdraw my name from consideration for any office and/or committee of MDARC, 10-28-80.

Chuck Stewart, KB6UC

# AZDEN®

## REVOLUTIONIZES THE STATE OF THE ART MICROCOMPUTER CONTROLLED

**NEW!**



2 METER FM TRANSCEIVER

NOT \$550.00  
**SPRING  
SALE**

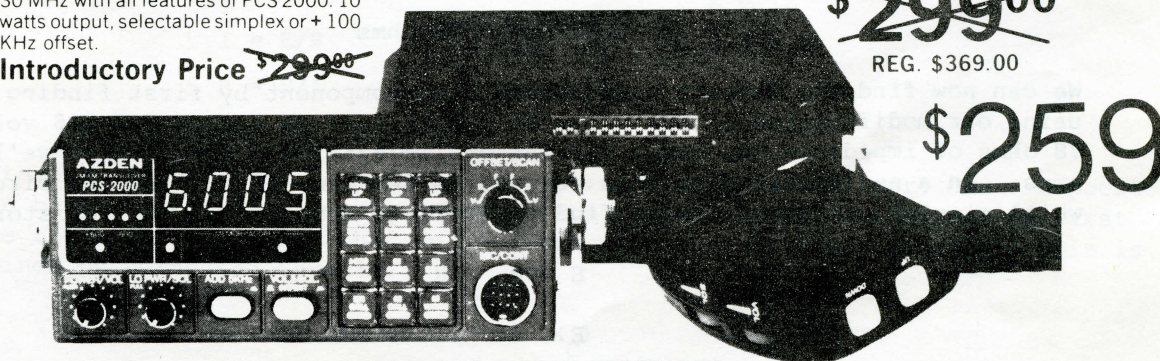
**NOW AVAILABLE!!**

PCS-2800 10-meter FM transceiver 28-30 MHz with all features of PCS-2000. 10 watts output, selectable simplex or +100 KHz offset.

Introductory Price ~~\$299.00~~

~~\$299.00~~

REG. \$369.00



COMPARE THESE FEATURES  
WITH ANY UNIT AT ANY PRICE

# SHAVER RADIO, INC.

1378 S. BASCOM AVE SAN JOSE, CALIF  
408 998-1103



**FOR SALE:**

Icom IC-230 2M Xcvr. Has all  
15 KHz splits. Add 2 Xtals  
for full 4 MHz coverage

Bill Orr, WB6BIU 837-7444

**FOR SALE:**

Old 75 foot crank-up tower  
and 2 element 40 meter Beam  
(Hy-gain).... \$150. or best  
offer over \$100.

Heathkit HW-101, SB-220 Amp  
plus HP-13A, HP-23A All for  
\$600. Complete set only.

Roger, WD6CLZ (916) 933-3235

**FOR SALE:**

Complete Hy-gain cubical  
quad boom and spars for  
10-15-20 meters, with fittings  
fittings. Needs renewal of  
nuts and bolts. Some wire  
usable. Needs one short  
piece of tubing..... \$50

Turner dynamic 250 Mic. \$15

Dave, W6QFA 837-8779

**FOR SALE:**

Dentron MLA2500B Linear  
2KW PEP. \$650.00

Dentron MT3000A 3KW  
Antenna Tuner.. 195.00

Pace 5621 1KW 3 position  
Co-ax Switch.. 7.00

Hustler Mobile Antenna  
Foldover base, Flex,  
RM15 & RM75 resonators.. 42.00  
(These items belonged to  
Bob Young, KC6F)

Wilson Mark IV 2M Hand  
Held with case, TTP and  
charger ..... 160.00

Also, Collins 75S3, 32S1  
with PS, Heath SB 401 and  
Hammerlund HQ 170.

W6KLM, Doug Lortsher  
283-2219

QST COLLECTOR

Looking for 1943 issues of QST and all  
issues prior to 1932 for my collection. I'm  
also interested in the small QST binders.  
Issues of 73 Magazine prior to 1974 also  
needed. Contact Doug Smith WA6GON, 1369 Tree  
Garden Place Concord 94518.

**THE BASE STATION**

AZDEN PCS-2000 2M Synthesized Mobile  
w/memory. List price \$389.00

Very Special Price \$259.95

DENTRON MLA 2500B Deluxe Linear Amp-  
lifier. List Price \$1300.00

Very Special Price \$749.95

SHURE 444D Hi/Low Z VOX type Desk  
Mic w/free call letter plate.

List price \$92.50.....Special \$49.95

SHURE Hand Microphones...From \$36.00

NYE VIKING Code Practice Oscillator  
w/key .....from \$6.95

NYE VIKING Code Keys ..... \$11.95

Other keys ..... from \$6.95

SUPEREX Headphones.....from \$11.95

TEMPO S-20 1W input, 30W output  
220 MHz Amplifier.....\$89.00

Also S-30 and S-80 2M Amps in stock.

AEA MT-1 Random Code Practice  
Sender..... \$99.95

AEA Isopole 2 meter antenna.. \$49.95

HUSTLER 5-BTV 80-10M Vertical Ant.  
List \$139.95 ..... Special \$109.95

HUSTLER 4-BTV 40-10M Vertical Ant.

List \$109.95 ..... Special \$89.95

CUSHCRAFT Ringo Ranger 2M Vertical  
Regular \$44.95 ..... Sale \$29.95

HAND HELDS: TEMPO S1A w/TTP \$289.95  
S5 w/TTP \$339.95, or TR-2400 \$399.95

1981 ARRL Handbook \$10.00 Available  
1981 U.S. Callbook \$17.95 late Nov.  
1981 DX Callbook \$16.95

YAESU FL-2100B 80-10M Linear Amp.  
USED \$350.00

ALL PRICES SUBJECT TO STOCK ON HAND.

Support your local Ham Store  
Save Time and Gas  
Lots of Free Parking  
SHOP IN CONCORD

**The Base Station**

2101 Pacheco St. Concord, CA 94520

(415) 685-7388



# ATTN: Mobile Hams Volt-I-Cator® ENDS BATTERY ANXIETY

If your battery is getting weak, find out before you get stuck! Volt-I-Cator detects your car's most common electrical problems—failing batteries, loose fan belts, defective regulators, corroded connections, bad alternators, and ignition wiring.

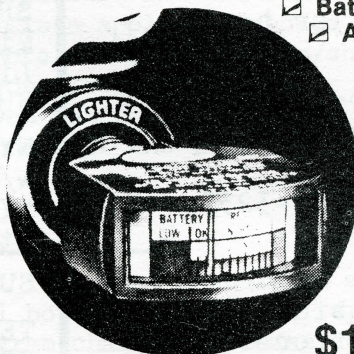
Volt-I-Cator plugs into all car cigarette lighter sockets. Follow the simple steps included with the instructions and you can determine present battery condition, the efficiency of the car's charging system and even determine if the engine is out of tune.

Don't let a bad battery or a faulty regulator cause you trouble this winter. Check them now! Volt-I-Cator can be inserted in the cigarette socket of all cars, trucks, campers, RVs, motor homes, boats and airplanes using a 12V negative ground system.

Use Volt-I-Cator to give you a quick check and leave it in the socket indefinitely...ready for an instant reading. It draws no significant power from the electrical system.

Diagnostic Volt-I-Cator plugs into cigarette lighter to test

- ☒ Voltage Regulator
- ☒ Battery
- ☒ Alternator



SWIVELS FOR  
EASY VIEWING

RUGGED CASE

WORKSHOP  
ACCURACY

EASY-TO-READ  
COLOR-CODED DIAL

**\$16.95**

\$1.50 shipping and handling  
1 year guarantee  
CA add 6% tax

**J&J Enterprises**

PO Box 18 • Grass Valley, CA 95945 • Jim Allan, W6HSY 50 years a ham

From:  
Mt. Diablo Amateur Radio Club, Inc.  
P.O. Box 23222  
Pleasant Hill, Calif. 94523

Affiliated with the ARRL  
Affiliated with the American Red Cross  
Member: Amateur Radio News Service

**FIRST CLASS MAIL**

**THIRD CLASS MAIL**

